<table>
<tr><th colspan="2">Louisiana Office of Public Health Laboratories</th></tr>
<tr><td>Test Name</td><td>Abrine/Ricinine</td></tr>
<tr><td>PHL Location</td><td>Central Laboratory Chemical Terrorism Section</td></tr>
<tr><td>CPT Code</td><td>Y38.7X2A Civilian Injury
Y38.7X2D Subsequent Encounters</td></tr>
<tr><td>Synonyms</td><td>Ab = Abrine; Rc = Ricinine</td></tr>
<tr><td>Brief Description of Test</td><td>Abrin and ricin are the toxic compounds from the rosary pea and the castor bean, respectively. Castor oil is produced from the castor bean. Ricin is considered a terrorist agent which has been used in the past. Abrin, from the rosary pea, has been used to poison individuals intentionally and is more toxic than ricin. Abrin and ricin are both ribosomal inactivating proteins which inhibit protein synthesis, resulting in cell death.

The method used in our laboratory is a CDC approved method which measures the innocuous organic compounds abrine and ricinine, which occur in the rosary pea and castor bean, respectively, and are surrogate markers for the toxins abrin and ricin. The laboratory uses solid phase extraction and LC MS MS analysis for the presence of these compounds in urine.</td></tr>
<tr><td>Possible Results</td><td>Abrine, Ricinine in urine are reported as none detected or, if detected, in ng/mL.</td></tr>
<tr><td>Reference Range</td><td>Reference ranges for tests in urine are:

<table><tr><th>Test</th><th>Normal Range</th></tr><tr><td>Abrine:</td><td>None Detected</td></tr><tr><td>Ricinine:</td><td>None Detected</td></tr></table>
Any level above None Detected will be treated as Critical (Panic) result and immediately phoned to the place of origin.</td></tr>
<tr><td>Specimen Type</td><td>Urine specimens are approved to be tested by this method.</td></tr>
<tr><td>Specimen Container(s):</td><td>Urine: Urine collected in a sterile, clean urine container, frozen immediately, and transported to the laboratory.</td></tr>
<tr><td>Minimum volume accepted:</td><td>2.5-5 mL, but 10 mL is preferable</td></tr>
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<tr><td>Collection Instructions</td><td>Urine specimens should be collected from subjects in standard urine collection cups. Samples should be stored on dry ice for shipping and frozen as soon as possible. Special care must be taken in packing to protect the urine cups from breakage during shipment. All samples should be stored at -80 ± 10^0 C until needed. The amount of specimen needed for this assay is 1 mL. The sample aliquot collected should be at least 2.5-5 mL, allowing for repeat analyses, if necessary.

Specimen labels and Specimen containers must be labeled with at least 2 identifiers:
• Patient's name
• Unique identifier

Required information for specimen submission:
• Patient's name
• Unique identifier
• Date of birth/age
• Date and time of collection
• Initials of the person who collected the specimen
• Source of the specimen, (Serum)
• Submitter name, address, and contact number</td></tr>
<tr><td>Storage and Transport Instructions</td><td>
<table>
<tr><th>Analyte</th><th>Room Temp

(18º-28ºC)</th><th>Refrigerated

(2º-8ºC)</th><th>Frozen

(80ºC)</th></tr>
<tr><td>Abrine</td><td>Unacceptable</td><td>Unacceptable</td><td>Required</td></tr>
<tr><td>Ricinine</td><td>Unacceptable</td><td>Unacceptable</td><td>Required</td></tr>
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Package in special thick-walled small volume OPH sytrofoam container and sandwich samples between dry ice. Ship rapidly so as to guarantee arrival at an acceptable temperature. Samples shipped frozen must be received at a temperature of -20°C or colder.</td></tr>
<tr><td>Causes for Rejection</td><td>Sample temperature upon arrival, QNS, transit damage, improper sample.</td></tr>
<tr><td>Limitations of the Procedure</td><td>All clinical chemistry results are subject to evaluation and interpretation by a medical professional. All aspects of the patient’s history, symptoms, and other diagnostic testing must be considered along with the serum chemistry in actual patient monitoring and treatment. This testing is only a part of the entire picture.</td></tr>
<tr><td>Interfering Substances</td><td>The LC-MS/MS analysis used in the OPH CT Lab provides excellent analytical specificity. The analyte peaks are located in well-defined regions of the chromatogram with no visible interferences and very low background. Although methods are used to minimize the possibility, it is possible that the sample matrix could cause ion suppression, resulting in lower than expected results. Occasional interference by unknown compounds might be encountered so false positive results are possible but very rare.</td></tr>
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References	• Analysis of Abrine & Ricinine in Urine by LC-MS/MS, Centers for Disease Control and Prevention, Chamblee, GA 30341 • LRN-C Training Materials, version 1.3, Centers for Disease Control and Prevention, Chamblee, GA 30341
Additional Information	None
Release Date	3/2016
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